

# What Lurks in the Lake?

2025 Updates on Cayuga Lake Harmful Algal Blooms

Cayuga Lake Watershed Network  
Spring Community Conference  
Wednesday, June 10, 2026

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Community Science Institute*

# Community Science Institute

## ➤ Our Mission:

*To inspire and empower communities to safeguard water resources by cultivating scientific literacy through volunteer water quality monitoring, certified laboratory analyses, and education.*

- 501(c)3 non-profit and NYSDOH-ELAP certified water testing
- Three facets of CSI:
  1. Fee-for-Service Water Testing Lab
    - Water Testing Assistance Program
  2. Volunteer Water Monitoring
    - Synoptic Stream & Lake Monitoring
    - Biomonitoring
    - Cayuga Lake Harmful Algal Bloom Monitoring
  3. Outreach & Education
    - Journey of Water Youth Education Series
    - Professional Conferences
    - Free public events

## 2026 Community Science Institute Staff



# CSI The Water Bulletin

The Newsletter of the Community Science Institute

2025  
Edition



#### Inside this Edition:

- *CSI's Statewide Impact: Advancing Science-Based Water Stewardship Across New York* Pages 1 - 2
- *Reports vs. Reality: Refining How We Read Cayuga Lake's Harmful Algal Blooms* Pages 3 - 5
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[www.communityscience.org](http://www.communityscience.org)

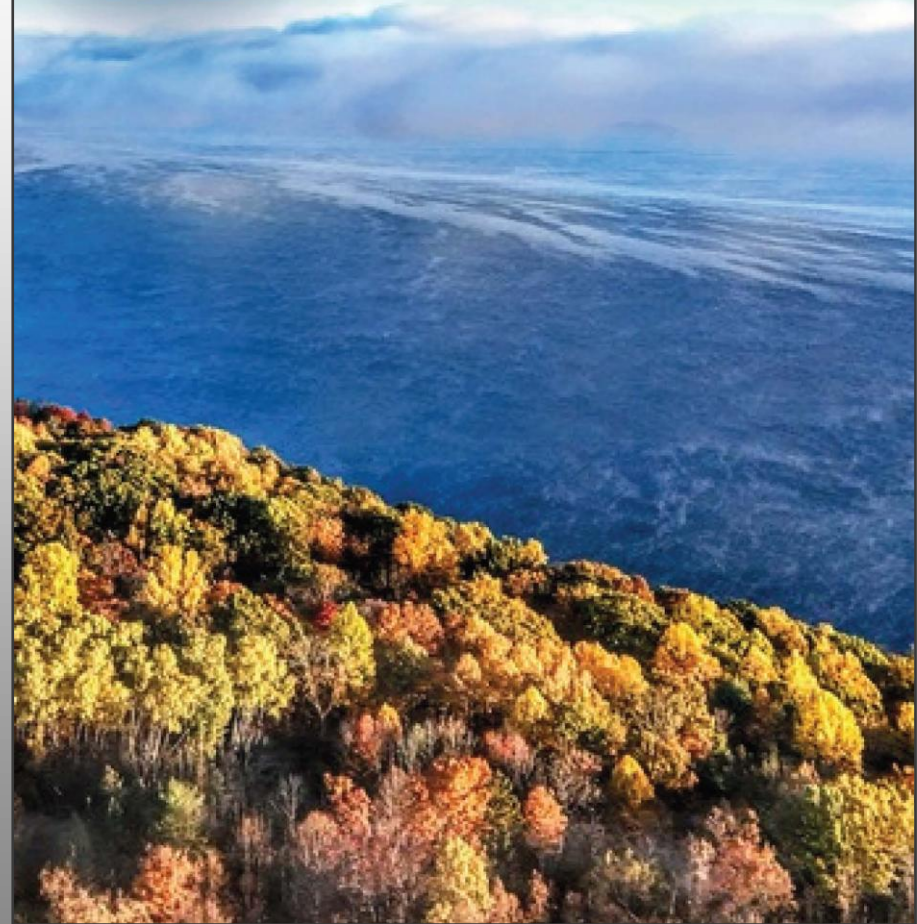
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CSI Community Science Institute  
Partnering with Communities to Protect Water

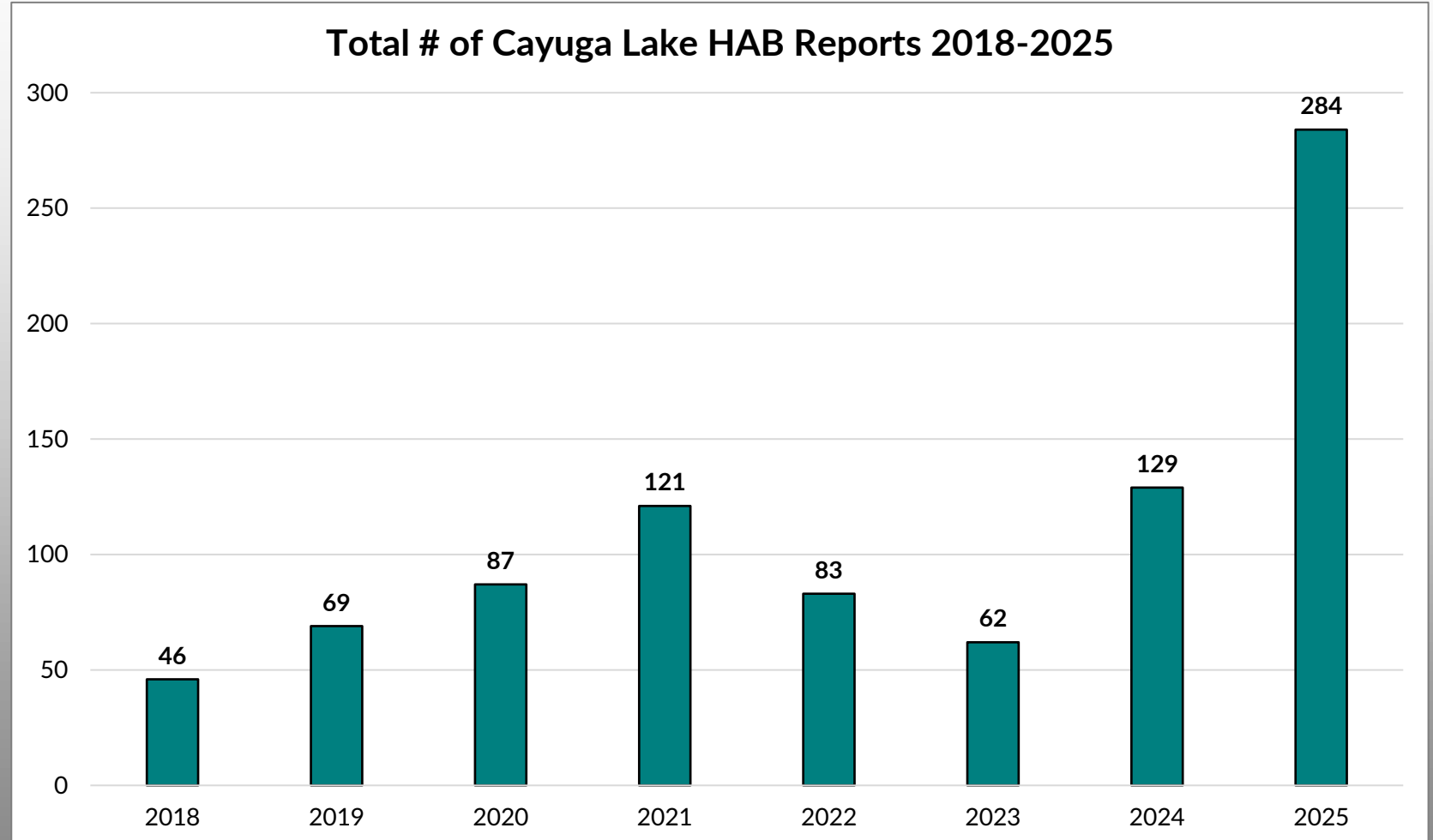
## 2025 Annual Report



# NYS Cayuga Lake Harmful Algal Bloom Monitoring Program

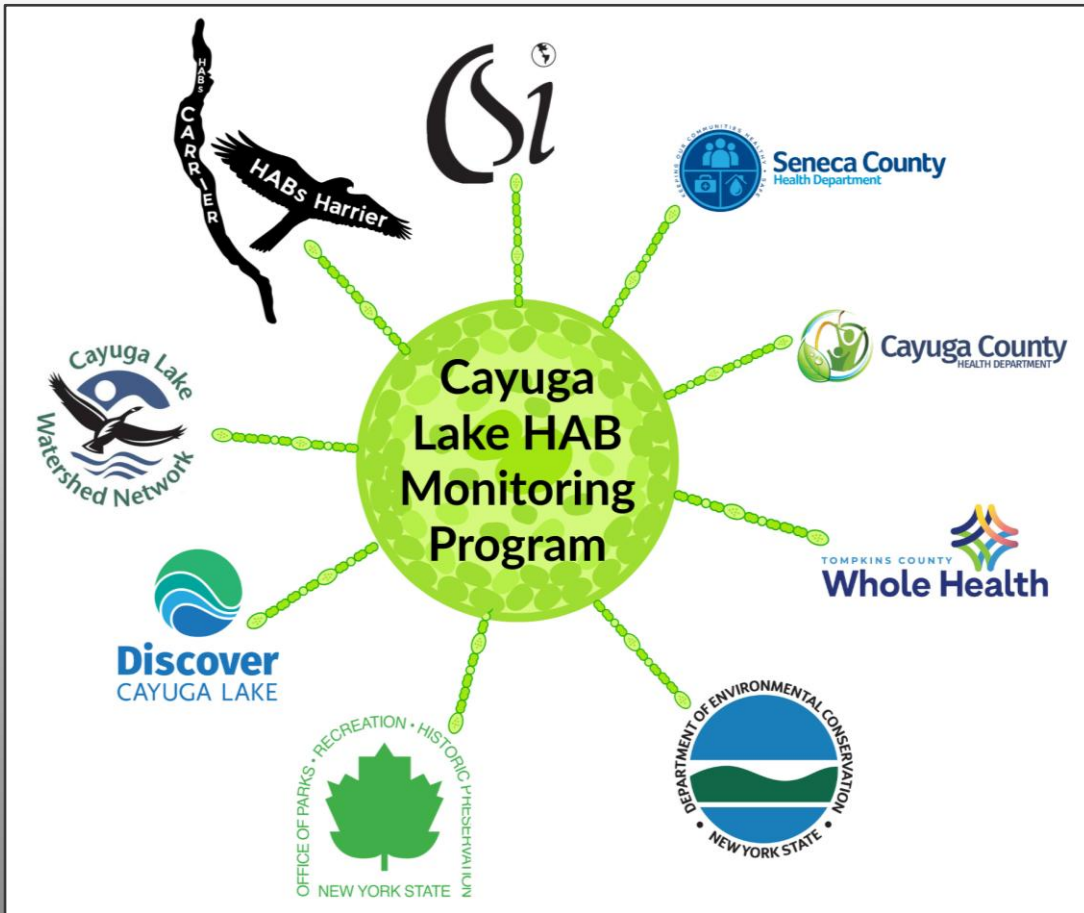
## Timeline:

- **2012:** NYSDEC began:
  - documenting HABs statewide and
  - started outreach efforts
- **2017:** Dozens of HAB reports were made by community members on Cayuga Lake
- **2018:** In collaboration with CLWN, CSI began
  - recruiting volunteers
  - shoreline monitoring and
  - collecting HABs samples from Cayuga Lake



# CSI's Cayuga Lake Harmful Algal Bloom Monitoring Program

➤ Funded by: Cayuga County Health Department, Seneca County Health Department, Tompkins County Whole Health



➤ CSI's monitoring program protocol follows NYS Department of Environmental Conservation protocol for shoreline monitoring: visual only

➤ In 2025, CSI's sample collection protocol was amended:

- 2018-2024: Volunteers collected samples from as many reported HABs as possible
- 2025: 14 "priority sites" identified by local departments of health

➤ CSI works closely with:

- NYS Parks, NYS Department of Health, local health departments
- Cayuga Lake Watershed Network
- Discover Cayuga Lake

➤ Dozens of "HABs Harriers" and "HABs Carriers" – volunteers!

# 2025 in Review

➤ Sites selected by each local County Department of Health for public health implications:

## Cayuga County:

1. Cayuga Marina & Outfitters: Marina/boat launch
2. Harris Park: Kayak launch
3. Frontenac Park: Kayak launch, unregulated swimming
4. Long Point State Park: Unregulated swimming

## Seneca County:

1. Town of Seneca Falls Water Treatment Plant: Public municipal water supply
2. Thirsty Owl Wine Co.: Public water supply
3. Sheldrake Point: Public water supply, boat launch, unregulated swimming
4. Cayuga Shoreline: Public water supply
5. Spotted Sandpiper: Public water supply

## Tompkins County:

1. Salt Point Natural Area: Unregulated swimming
2. Lansing Harbor: Public water supply, marina
3. Bolton Point: Public municipal water supply
4. East Shore Park: Unregulated swimming
5. Ithaca Yacht Club: Public water supply, marina

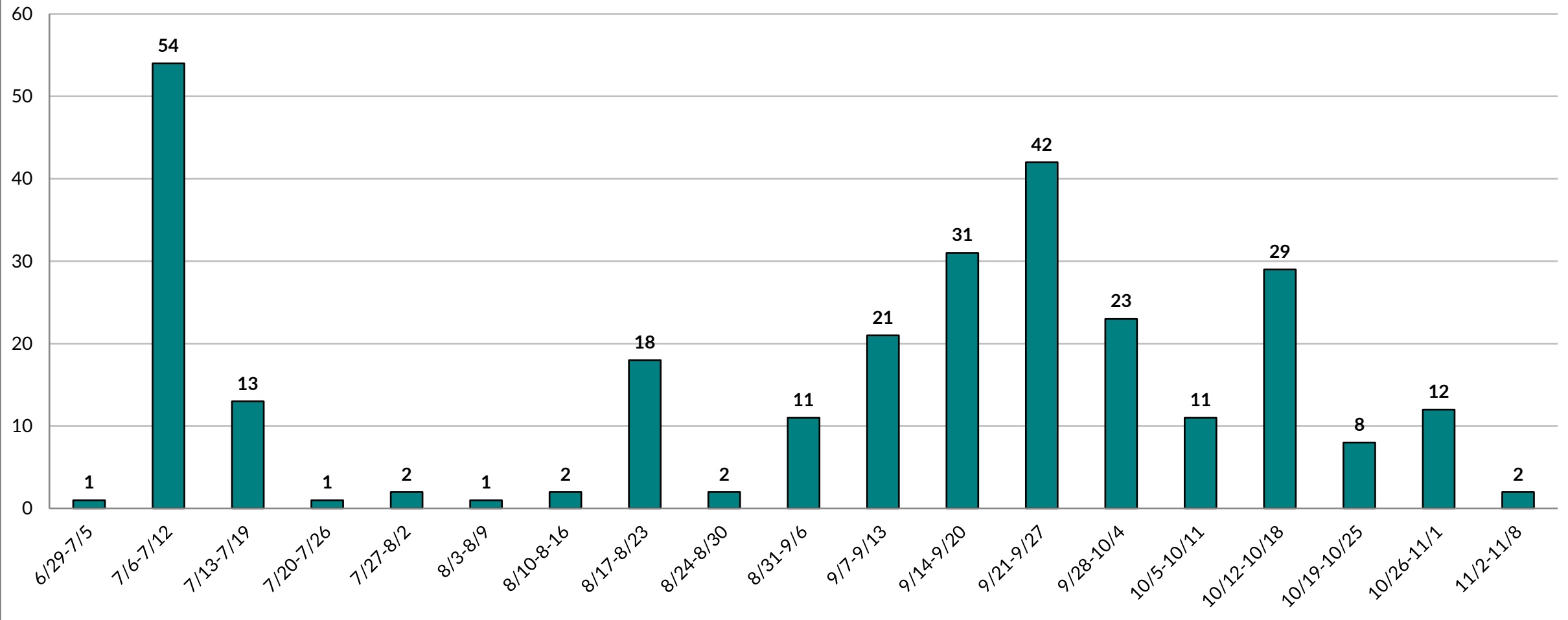


# 2025 in Review

First Report: 7/5/25

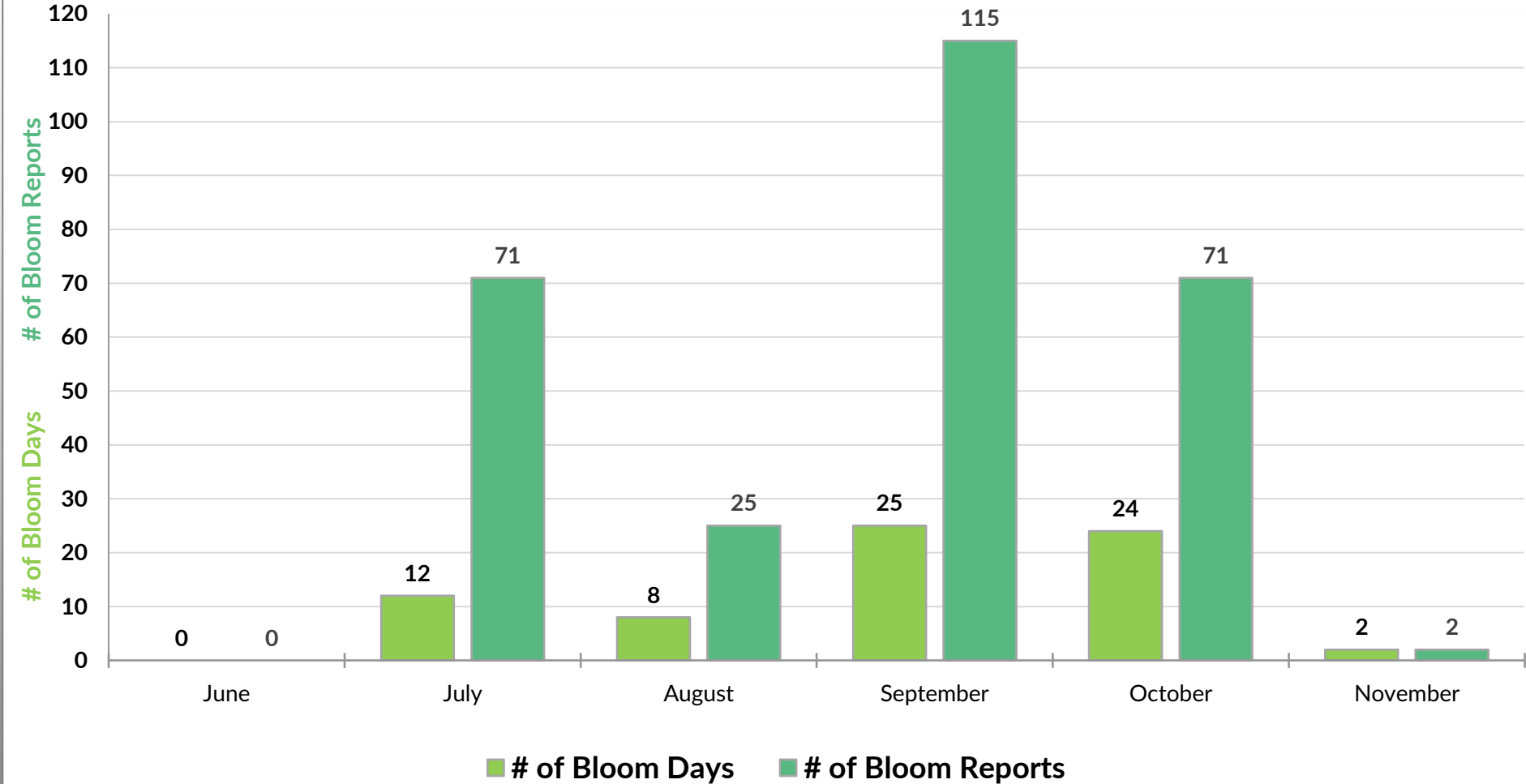
Last Report: 11/7/25

### Distribution of HAB Reports by Week— Cayuga Lake 2025



# 2025 in Review

## 2025 Cayuga Lake Bloom Days vs. Bloom Reports



### # of Bloom Days:

June: 0/30 days

July: 12/31 days

August: 8/31 days

September: 25/30 days

October: 24/31 days

November: 2/30 days

# 2025 in Review

➤ 34 samples were analyzed in 2025:

## 1. Microscopy

- Performed on all submitted samples
- Used to identify bloom composition and determine whether cyanobacteria are present

## 2. Total Chlorophyll-*a*

- *Conducted when cyanobacteria are confirmed*
- Estimates cyanobacterial biomass
- Measured using spectrophotometry
- Results reported in parts per billion (ppb) or micrograms per liter ( $\mu\text{g/L}$ )

## 3. Microcystin

- *Conducted when cyanobacteria are confirmed*
- Measures the presence of microcystin, the most common cyanotoxin detected in New York waters
- Helps assess potential health risks associated with the bloom
- Results reported in parts per billion (ppb) or micrograms per liter ( $\mu\text{g/L}$ )

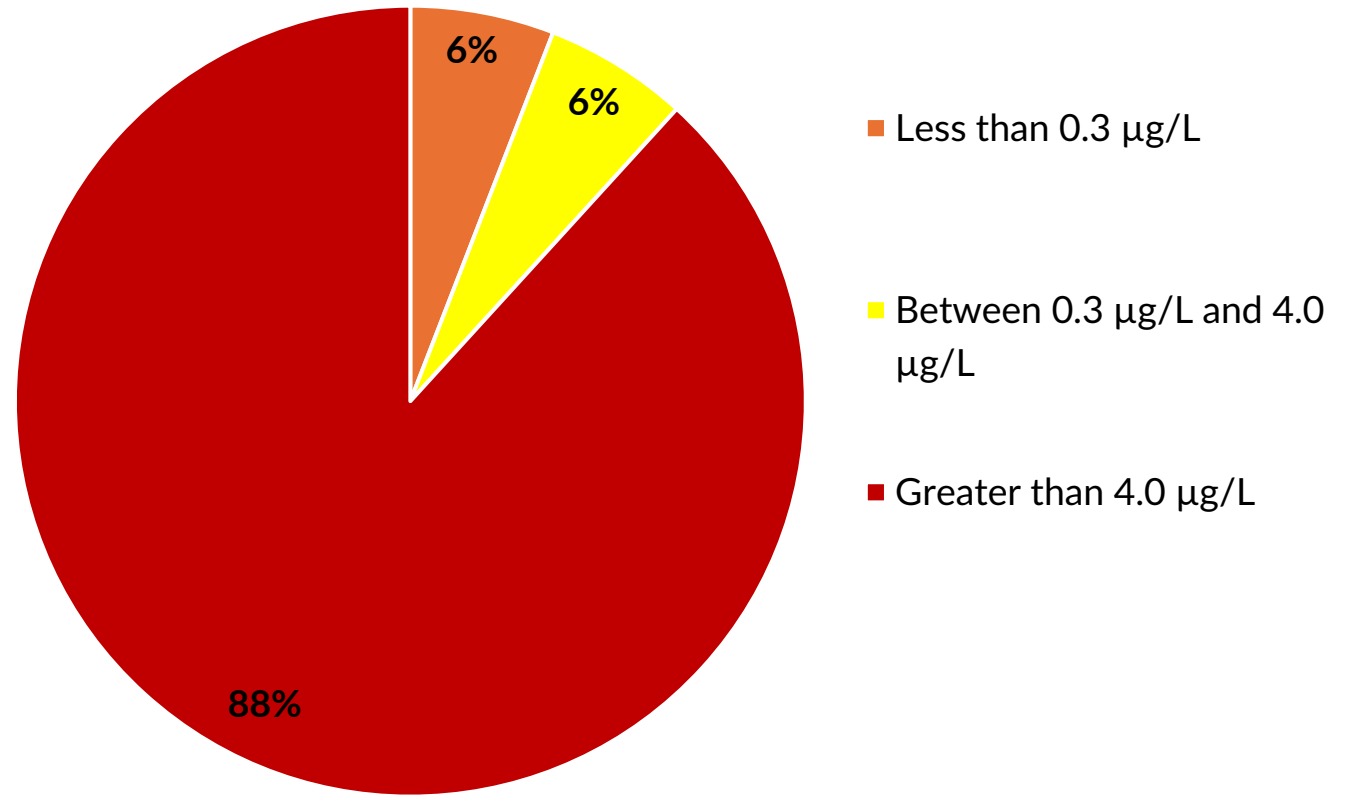


# 2025 in Review

## ➤ Microcystin Contact Limits set by NYSDOH:

- ≤ 0.3 µg/L: safe for drinking water
- > 0.3 µg/L: unsafe for drinking water
  
- ≤ 4.0 µg/L: safe for recreation
- > 4.0 µg/L: unsafe for recreation

2025 Percentage of HAB Samples that Contain Varying Microcystin Concentration Levels in µg/L

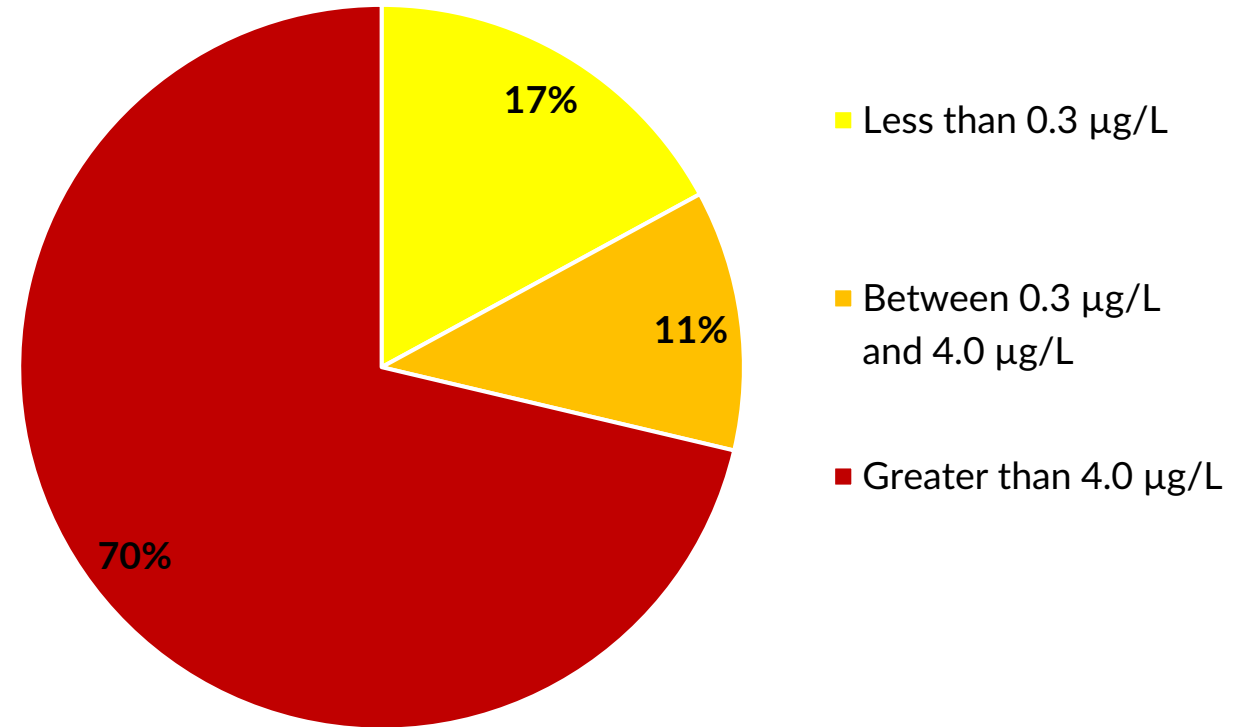


# Microcystin levels 2018-2025

## ➤ Microcystin is:

- A toxin produced by some cyanobacteria and is the most commonly detected cyanotoxin in New York
- A hepatotoxin, meaning it primarily affects the liver
- Exposure can cause skin irritation, gastrointestinal illness, and liver damage at high concentrations
- Testing helps assess potential health risks associated with HABs and inform public health advisories

2018-2025 Percentages of HAB Samples that Contain Varying Microcystin Concentration Levels in  $\mu\text{g/L}$



# Looking Ahead to 2026

## ➤ Earliest HAB on NYS Record reported: 4/23/26

Harmful Algal Bloom (HAB) Event Information		
Bloom Code: 26-NE3-B1		
<b>Where</b>		
Water Body	Cayuga Lake	
Latitude and Longitude	42.90432, -76.72393	
Segment	Lakeshore Segment Northeast 3: Harris Park to Frontenac Park	
County	Cayuga	
Extent	Small Localized (few properties)	
<b>When</b>		
Bloom Reported	April 23, 2026 04:07 PM	
Bloom Sampled	April 23, 2026 05:25 PM	
Microscopic Examination	April 27, 2026	
<b>What</b>		
Bloom Genera [1]		
Microscopy	Present	Dominant
Microcystis	✓	✓

**Bloom Description**

Extremely early season HAB observed at the northern end of Cayuga Lake. The volunteer was able to collect a small sample for microscopy analysis. She noted that the bloom dispersed in approximately 1.5 hours from the time she observed it.

- No additional HABs confirmed since.
- Official volunteer monitoring season: 6/1 – 10/31

## ➤ 15 Priority Zones:

### Cayuga County:

1. Mud Lock
2. Harris Park
3. Frontenac Park
4. Aurora Fire Dept. Dock
5. Long Point State Park

### Tompkins County:

1. Salt Point Natural Area
2. Lansing Harbor
3. Bolton Point
4. East Shore Park
5. Ithaca Yacht Club

### Seneca County:

1. Town of Seneca Falls Water Treatment Plant
2. Thirsty Owl Wine Co.
3. Sheldrake Point
4. Cayuga Shoreline
5. Spotted Sandpiper

# Thank you ~ questions?



Reach out with questions!

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